

**COSITE INTERFERENCE REJECTION SYSTEM USING
AN OPTICAL APPROACH**

ABSTRACT OF THE DISCLOSURE

A cosite interference rejection system allows cancellation of large interfering signals with an optical cancellation subsystem. The rejection system includes an interference subsystem coupled to a transmit system, where the interference subsystem weights a sampled transmit signal based on a feedback signal such that the weighted signal is out of phase with the sampled transmit signal. The optical cancellation subsystem is coupled to the interference subsystem and a receive antenna. The optical cancellation subsystem converts an optical signal into a desired receive signal based on an interfering coupled signal and the weighted signal. The weighted signal is therefore used to drive the optical cancellation subsystem. The rejection system further includes a feedback loop for providing the feedback signal to the interference subsystem based on the desired receive signal.